# Preface

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Version 2.0

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## Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

## Declaration of Conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation

## Canadian Department of Communications

This class B digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Réglement sur le matériel brouilieur du Canada.

## About the Manual

The manual consists of the following:

**Chapter 1**
**Introducing the Motherboard**

Describes features of the motherboard.

Go to ⇨ page 1

**Chapter 2**
**Installing the Motherboard**

Describes installation of motherboard components.

Go to ⇨ page 7

**Chapter 3**
**Using BIOS**

Provides information on using the BIOS Setup Utility.

Go to ⇨ page 25

**Chapter 4**
**Using the Motherboard Software**

Describes the motherboard software

Go to ⇨ page 41

**Chapter 5**
**Setting Up eJIFFY**

Describes the eJIFFY setting up

Go to ⇨ page 45

**Chapter 6**
**Trouble Shooting**

Provides basic trouble shooting tips

Go to ⇨ page 55

# TABLE OF CONTENTS

**Preface** i

Chapter 1 1
**Introducing the Motherboard** 1
Introduction....1
Feature....2
Motherboard Components....4

Chapter 2 7
**Installing the Motherboard** 7
Safety Precautions....7
Choosing a Computer Case....7
Installing the Motherboard in a Case....7
Checking Jumper Settings....8
*Setting Jumpers....8*
*Checking Jumper Settings....9*
*Jumper Settings....9*
Installing Hardware....10
*Installing the Processor....10*
*Installing Memory Modules....12*
*Expansion Slots....15*
*Connecting Optional Devices....17*
*Installing a Hard Disk Drive/CD-ROM/SATA Hard Drive...19*
Connecting I/O Devices....21
Connecting Case Components....22
*Front Panel Header....24*

Chapter 3 25
**Using BIOS** 25
About the Setup Utility.... 25
*The Standard Configuration....25*
*Entering the Setup Utility....25*
Using BIOS....26
*Standard CMOS Setup....27*
*Advanced Setup....29*
*Advanced Chipset Setup....31*

*Integrated Peripherals*.....*32*
*Power Management Setup*.....*33*
*PCI/PnP Setup*.....*34*
*PC Health Status*.....*35*
*Frequency/Voltage Control*.....*36*
*Load Default Settings*.....*38*
*Supervisor Password*.....*38*
*User Password*.....*39*
*Save & Exit Setup*.....*40*
*Exit Without Saving*.....*40*
*Updating the BIOS*.....*40*

Chapter 4 **41**

**Using the Motherboard Software** **41**

About the Software DVD-ROM/CD-ROM.....41
Auto-installing under Windows XP/Vista/7.....41
*Running Setup*.....*42*
Manual Installation.....44
Utility Software Reference.....44

Chapter 5 **45**

**Setting Up eJIFFY** **45**

Installation and BIOS Setup.....46
Entering eJIFFY.....49
Features Icons.....50
Usage FAQ.....51

Chapter 6 **55**

**Trouble Shooting** **55**

Start up problems during assembly.....55
Start up problems after prolong use.....56
Maintenance and care tips.....56
Basic Troubleshooting Flowchart.....57

# Chapter 1
# *Introducing the Motherboard*

## Introduction

Thank you for choosing the P43T-A2 motherboard. This motherboard is a high performance, enhanced function motherboard designed to support the LGA775 socket Intel® Yorkfield/Wolfdale processors for high-end business or personal desktop markets.

The motherboard incorporates the Intel Eaglelake P43 Northbridge (NB) and Intel ICH10 Southbridge (SB) chipsets. The Northbridge supports a Front Side Bus (FSB) frequency of 1333/1066/800 MHz using a scalable FSB Vcc_CPU. The memory controller supports DDR2 memory DIMM frequencies of 800/667. It supports four DDR2 sockets with maximum memory size of 16 GB. DDR2 memory bandwidth of 12.8 GB/s in dual-channel symmetric mode assuming DDR2 800 MHz. High resolution graphics via one PCI Express x16 slot, intended for Graphics Interface, is fully compliant to the PCI Express Base Specification Revision 2.0.

The ICH10 Southbridge supports two PCI slots which are PCI v2.3 compliant. In addition, three PCI Express x1 slots are supported, fully compliant to the PCI Express Base Specification, Revision 1.1. It implements an EHCI compliant interface that provides 480 Mb/s bandwidth for twelve USB 2.0 ports (four USB ports and four USB 2.0 headers support additional eight USB ports). One onboard IDE connector supports two IDE devices in Ultra ATA 133/100/66/33 mode. The Southbridge supports six SATA ports with maximum transfer rate up to 3.0 Gb/s each.

There is an advanced full set of I/O ports in the rear panel, including PS/2 mouse and keyboard connectors, COM, four USB ports, one LAN port and audio jacks for microphone, line-in and 6-ch line-out.

# Feature

## Processor

This motherboard uses an LGA775 type of Intel® Yorkfield/Wolfdale that carries the following features:

- Accommodates Intel® Yorkfield/Wolfdale processors
- Supports a system bus (FSB) of 1333/1066/800 MHz

## Chipset

The P43 Northbridge (NB) and ICH10 Southbridge (SB) chipsets are based on an innovative and scalable architecture with proven reliability and performance.

***P43 (NB)***

- Supports 36-bit host bus addressing, allowing the CPU to access the entire 64 GB of the memory address space.
- 2 GB/s point-to-point Direct Media Interface (DMI) to ICH10 (1 GB/s each direction)
- One, 16-lane PCI Express x16 port for Graphics Attach, compliant to the PCI Express Base Specification revision 2.0
- Supports 512-Mb and 1-Gb DDR2 and 512-Mb, 1-Gb,and 2-Gb DDR3 DRAM technologies for x8 and x16 devices

***ICH10 (SB)***

- Enhanced DMA Controller, interrupt controller, and timer functions
- Compliant with PCI Express Base Specification, revision 1.1
- Compliant with PCI v2.3 specificaiton
- Compliant with SATA 3.0 Gb/s Host Controller
- Integrated USB 2.0 Host Controller supporting up to twelve USB 2.0 ports

## Memory

- Supports DDR2 800/667 DDR2 SDRAM with Dual-channel architecture
- Accommodates four unbuffered DIMMs
- Up to 4 GB per DIMM with maximum memory size up to 16 GB

## Audio

- 5.1 Channel High Definition Audio Codec
- ADCs supports 96k/48k/44.1kHz sample rate
- Meets Microsoft WLP 3.08 Vista premium and mobile PCs audio requirements
- Direct Sound 3D™ compatible

## Onboard LAN

- Integrated 10/100/1000 Base-T Transceiver
- Integrated 10/100/1000 Mbps IEEE 802.3 compliant
- IEEE 802.3u Auto-Negotiation

## Expansion Options

The motherboard comes with the following expansion options:

- One PCI Express x16 slot for Graphics Interface
- Three PCI Express x1 slots
- Two 32-bit PCI v2.3 compliant slots
- One IDE connector supporting up to two IDE devices
- Six 7-pin SATA connectors

This motherboard supports Ultra DMA bus mastering with transfer rates of 133/100/66/33 Mb/s.

## Integrated I/O

The motherboard has a full set of I/O ports and connectors:

- Two PS/2 ports for mouse and keyboard
- One Serial port
- Four USB ports
- One LAN port
- Audio jacks for microphone, line-in and 6-ch line-out

## BIOS Firmware

The motherboard uses AMI BIOS that enables users to configure many system features including the following:

- Power management
- Wake-up alarms
- CPU parameters
- CPU and memory timing

The firmware can also be used to set parameters for different processor clock speeds.

*1. Some hardware specifications and software items are subject to change without prior notice.*

*2. Due to chipset limitation, we recommend that motherboard be operated in the ambiance between 0 and 50 ° C.*

## Motherboard Components

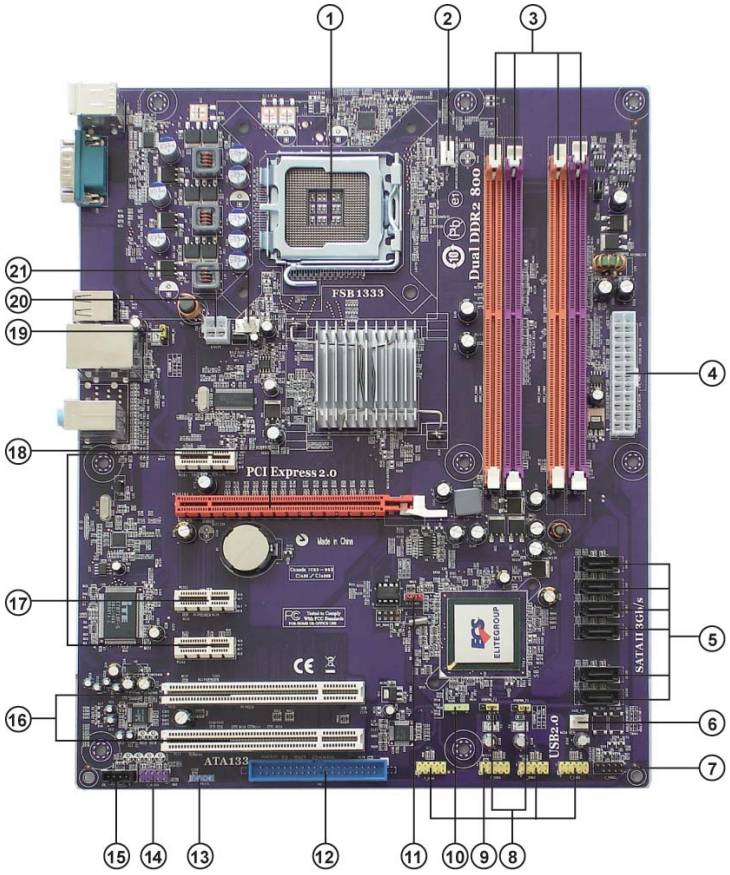


***Table of Motherboard Components***

| LABEL | COMPONENTS |
|---|---|
| 1. CPU Socket | LGA775 socket Intel® Yorkfield/Wolfdale Family processors |
| 2. CPU_FAN1 | CPU cooling fan connector |
| 3. DDR2_DIMM1~4 | 240-pin DDR2 SDRAM slots |
| 4. ATX_POWER | Standard 24-Pin ATX Power connector |
| 5. SATA1~6 | Serial ATA connectors |
| 6. CASE_FAN | Case cooling fan connector |
| 7. F_PANEL | Front Panel Switch/LED header |
| 8. USBPWR_F1~2 | Front Panel USB Power Select jumpers |
| 9. F_USB1~4 | Front Panel USB headers |
| 10. SPK | Speaker header |
| 11. CLR_CMOS | Clear CMOS jumper |
| 12. IDE | Primary IDE connector |
| 13. SPDIFO | SPDIF out header |
| 14. F_AUDIO | Front Panel Audio header |
| 15. CD_IN | Analog Audio Input connector |
| 16. PCI2~3 | 32-bit add-on card slots |
| 17. PCIE1~3 | PCI Express x1 slots |
| 18. PCIE16X_1 | PCI Express x16 graphics card slot |
| 19. USBPWR_R1 | Rear Panel USB/PS2 Power Select jumper |
| 20. ATX12V | 4-pin +12V power connector |
| 21. SYS_FAN1 | System cooling fan connector |

This concludes Chapter 1. The next chapter explains how to install the motherboard.

*Memo*

# Chapter 2
# *Installing the Motherboard*

## Safety Precautions

- Follow these safety precautions when installing the motherboard
- Wear a grounding strap attached to a grounded device to avoid damage from static electricity
- Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard
- Leave components in the static-proof bags they came in
- Hold all circuit boards by the edges. Do not bend circuit boards

## Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the FULL ATX system case. Firstly, some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Make sure that your case supports all the features required. Secondly, this motherboard supports two enhanced IDE drives. Make sure that your case has sufficient power and space for all drives that you intend to install.

Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

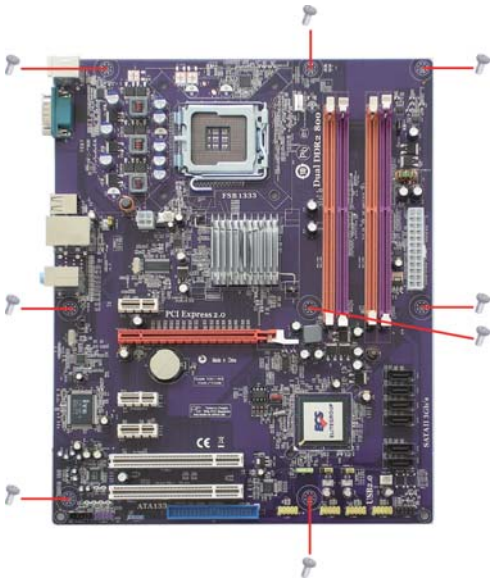
This motherboard carries a FULL ATX form factor of 305 x 244 mm. Choose a case that accommodates this form factor.

## Installing the Motherboard in a Case

Refer to the following illustration and instructions for installing the motherboard in a case.

Most system cases have mounting brackets installed in the case, which correspond the holes in the motherboard. Place the motherboard over the mounting brackets and secure the motherboard onto the mounting brackets with screws.

Ensure that your case has an I/O template that supports the I/O ports and expansion slots on your motherboard.



*Do not over-tighten the screws as this can stress the motherboard.*

## Checking Jumper Settings

This section explains how to set jumpers for correct configuration of the motherboard.

### *Setting Jumpers*

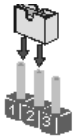
Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

The illustrations show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.

**SHORT**

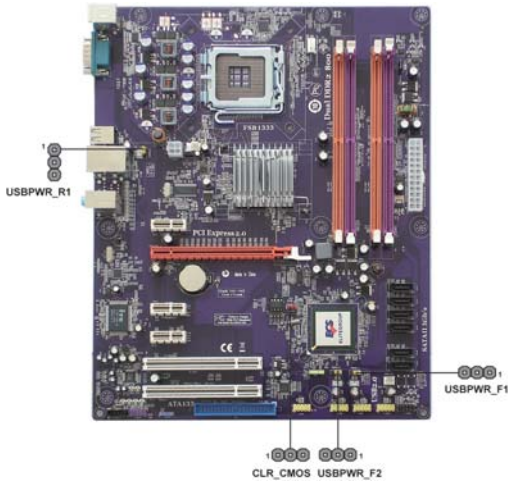
**OPEN**

This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT



### *Checking Jumper Settings*

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.




### *Jumper Settings*

| Jumper | Type | Description | Setting (default) | |
|---|---|---|---|---|
| **CLR_CMOS** | 3-pin | CLEAR CMOS | 1-2: NORMAL<br>2-3: CLEAR<br>Before clearing the CMOS, make sure to turn the system off. | <br>1<br>**CLR_CMOS** |
| **USBPWR_R1** | 3-pin | Rear USB/PS2 Power Select Jumper | 1-2: VCC<br>2-3: 5VSB | 1<br> <br>**USBPWR_R1** |
| **USBPWR_F1~2** | 3-pin | Front Panel USB Power Select Jumper | 1-2: VCC<br>2-3: 5VSB | <br>1<br>**USBPWR_F1~2** |

1. *To avoid the system instability after clearing CMOS, we recommend users to enter the main BIOS setting page to "Load Default Settings" and then "Save & Exit Setup".*
2. *Make sure the power supply provides enough 5VSB voltage before selecting the 5VSB function.*
3. *It is required that users place the USBPWR_F1~2 & USBPWR_R1 cap onto 2-3 pin rather than 1-2 pin as default if you want to wake up the computer by USB/PS2 KB/Mouse.*

# Installing Hardware

## *Installing the Processor*

*Caution: When installing a CPU heatsink and cooling fan make sure that you DO NOT scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to the motherboard or its components.*

*On most motherboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.*

*Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.*

### Before installing the Processor

This motherboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change the settings in the system Setup Utility. We strongly recommend that you do not over-clock processors or other components to run faster than their rated speed.

*Warning:*

*1. Over-clocking components can adversely affect the reliability of the system and introduce errors into your system. Over-clocking can permanently damage the motherboard by generating excess heat in components that are run beyond the rated limits.*

*2. Always remove the AC power by unplugging the power cord from the power outlet before installing or removing the motherboard or other hardware components.*

This motherboard has an LGA775 socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

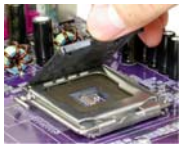
## CPU Installation Procedure

The following illustration shows CPU installation components.

A. Read and follow the instructions shown on the sticker on the CPU cap.

B. Unload the cap
- Use thumb & forefinger to hold the lifting tab of the cap.
- Lift the cap up and remove the cap completely from the socket.

C. Open the load plate
- Use thumb & forefinger to hold the hook of the lever, pushing down and pulling aside unlock it.
- Lift up the lever.
- Use thumb to open the load plate. Be careful not to touch the contacts.



D. Install the CPU on the socket
- Orientate CPU package to the socket. Make sure you match triangle marker to pin 1 location.

E. Close the load plate
- Slightly push down the load plate onto the tongue side, and hook the lever.
- CPU is locked completely.

F. Apply thermal grease on top of the CPU.

G. Fasten the cooling fan supporting base onto the CPU socket on the motherboard.

H. Make sure the CPU fan is plugged to the CPU fan connector. Please refer to the CPU cooling fan user's manual for more detail installation procedure.

*1. To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/ heatsink supplied. The form and size of fan/heatsink may also vary.*

*2. DO NOT remove the CPU cap from the socket before installing a CPU.*

*3. Return Material Authorization (RMA) requests will be accepted only if the motherboard comes with the cap on the LGA775 socket.*

## *Installing Memory Modules*

This motherboard accommodates four memory modules. It can support four 240-pin DDR2 800/667. The total memory capacity is 16 GB.

### DDR2 SDRAM memory module table

| Memory module | Memory Bus |
|---|---|
| ***DDR2 667*** | ***333 MHz*** |
| ***DDR2 800*** | ***400 MHz*** |

You must install at least one module in any of the four slots. Each module can be installed with 4 GB of memory; total memory capacity is 16 GB.

The four DDR2 memory sockets (DDR2_DIMM1, DDR2_DIMM2, DDR2_DIMM3, DDR2_DIMM4) are divided into two channels and each channel has two memory sockets as following:

- Channel 0: DDR2_DIMM1, DDR2_DIMM2
- Channel 1: DDR2_DIMM3, DDR2_DIMM4

*Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.*

## Installation Procedure

Refer to the following to install the memory modules.

1. This motherboard supports unbuffered DDR2 SDRAM only.
2. Push the latches on each side of the DIMM slot down.
3. Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
4. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
5. Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.
6. Install any remaining DIMM modules.

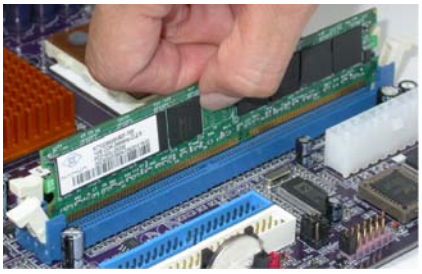


**Table A: DDR2 (memory module) QVL (Qualified Vendor List)**

The following DDR2 800/667/533 memory modules have been tested and qualified for use with this motherboard.

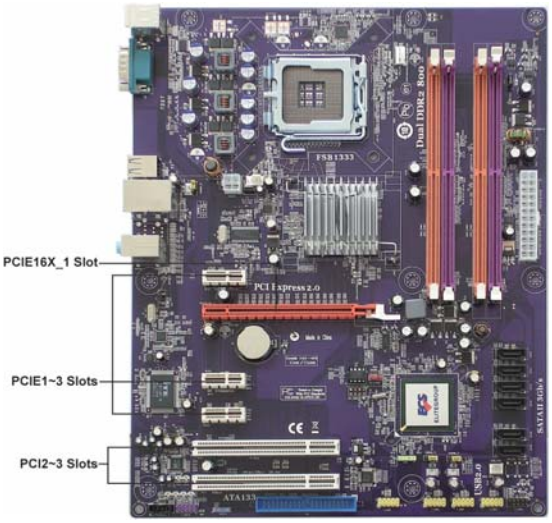
| Type | Size | Vendor | Module Name |
|---|---|---|---|
| DDR2 533 | 512 MB | Samsung | PC2-4200U-4444-10-B1 |
| | 1 GB | A-data | A-DATA/Vitesta |
| | | Kingmax | KLBD48F-A8KE4 |
| DDR2 667 | 512 MB | Apacer | 78.91G92.9K5 |
| | | Micron | MT4HTF6464AY-667E1 |
| | | PSC | AL6E8E63J-6E1 |
| | | Ramxel | RML1520M38D6F-667 |
| | | Samsung | PC2-5300U-555-12-D3 |
| | 1 GB | Apacer | AU01GE667C5KBGC |
| | | | 78.01G9O.9K5 |
| | | | 1GB UNB PC2-5300 CL5 |
| | | Corsair | VS1GB667D2 |
| | | Hexon | HYNT7AUDR-30M48 |
| | | Kingston | KVR667D2N5 |
| | | Micron | MT8HTF12864AY-667E1 |
| | | PSC | AL7E8E63B-6E1T |
| | | | AL7E8F63J-6E1 |
| | | | AL7E8F73C-6E1 |
| | | Samsung | Golden Bar M378T2863DZS 0742 |
| | 2 GB | Aeneon | AET860UD00-30DB08X |
| | | Apacer | 78.A1G9O.9K4 |
| | | Hexon | HYNT8AUDR-30M88 |
| | | Hynix | HYMP125U64AP8-Y5 AB-A 0623 |
| | | Kingston | KVR667D2N5/2G |
| | | LeadMax | PC2-5300U |
| | | PSC | AL8E8F73C-6E1 |
| | | Qimonda | HYS64T256020EU-3S-C2 |
| | 4 GB | Aeneon | AET960UD00-30D |

| Type | Size | Vendor | Module Name |
|---|---|---|---|
| DDR2 800 | 512 MB | Kingston | KVR800D2N5/512 1.8V 9905315-019.A02LF |
| | | Micron | MT8HTF6464AY-80ED4 |
| | | Qimonda | HYS72T64000HU-2.5-B |
| | 1 GB | A-DATA | M2GVD6G3I41P0U1E5E |
| | | Aeneon | AET760UD00-30DB97X |
| | | | AET760UD00-25DC08X |
| | | Apacer | AU01GE800C5KBGC |
| | | | 78.01GAO.9K5 |
| | | APOGEE | AU1G082-800P000 |
| | | Geil | Geil Millenary /Geil/GL2L64M088BA18H |
| | | | Geil Platinum Edition Geil/Boxed |
| | | Hexon | ELPT7AUDR-25M48 |
| | | Infinity | 04701G16CZ5U2G |
| | | Kingston | KHX6400D2ULK2/2G 9905315-078.A00LF//Boxed |
| | | | KVR800D2N5/1G 1.8V 9905316-054.A01LF |
| | | PSC | AL7E8F73C-8E1 |
| | | Ramaxel | RML1320EH38D7F-800 |
| | | Samsung | Golden Bar M378T2953EZ3-CE7 0726 |
| | | Silicon Power | SP001GBLRU800S01 |
| | | Transcend | 507301-1571 |
| | 2 GB | A-DATA | Red A-DATA M2OMI6H3J4720L1C5Z /A-DATA/Boxed |
| | | Aeneon | AET860UD00-25DC08X |
| | | Apacer | 78.A1GAO.9K4 |
| | | CORSAIR | CM2X2048-6400C5 |
| | | Hexon | ELPT8AUDR-25M88 |
| | | Kingston | KVR800D2N5/2G |
| | | Micron | MT16HTF25664AY-800E1 |
| | | PSC | AL8E8F73C-8E1 |
| | | | AL8E8F73C-8E1 |
| | | Qimonda | HYS64T256020EU-25F-C2 |
| | | Samsung | M378T5663QZ3-CF7 |
| | | Silicon Power | SP002GBLRU800S01 |
| | 4 GB | Aeneon | AET960UD00-25D |

## *Expansion Slots*

### Installing Add-on Cards

The slots on this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.




**PCIEX16_1 Slot** The PCI Express x16 slot is used to install the external PCI Express graphics cards that are fully compliant to the PCI Express Base Specification Revision 2.0.

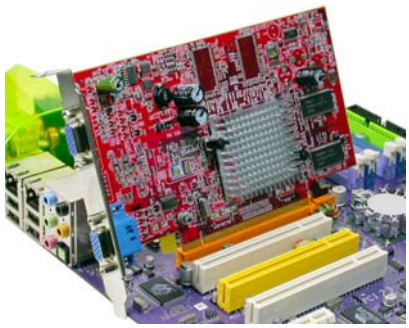
**PCIE1~3 Slots** The PCI Express x1 slots are fully compliant to the PCI Express Base Specification Revision 1.1.

**PCI2~3 Slots** This motherboard is equipped with two standard PCI slots. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards, which for the most part, is a supplement of the older ISA bus standard. The PCI slots on this board are PCI v2.3 compliant.

*Before installing an add-on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.*

Follow these instructions to install an add-on card:

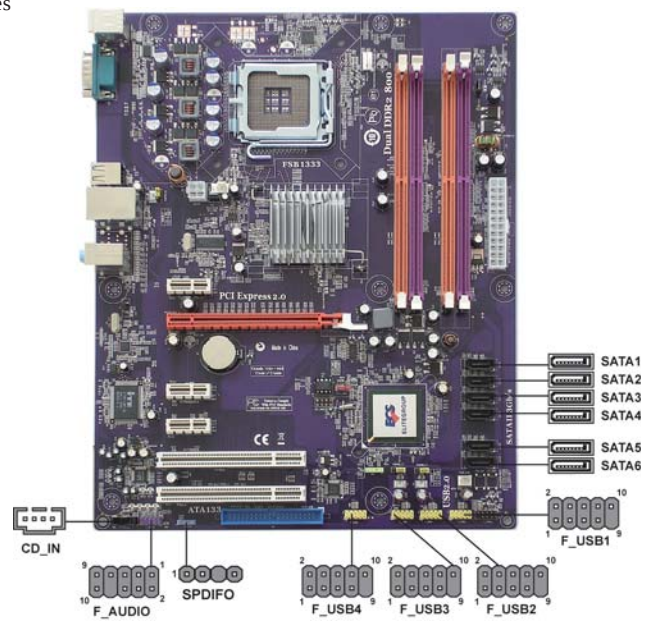
1 Remove a blanking plate from the system case corresponding to the slot you are going to use.
2 Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.
3 Secure the metal bracket of the card to the system case with a screw.



*For some add-on cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-on card.*

## *Connecting Optional Devices*

Refer to the following for information on connecting the motherboard optional devices




### F_AUDIO: Front Panel Audio header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

| Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|
| 1 | PORT 1L | 2 | AUD_GND |
| 3 | PORT 1R | 4 | PRESENCE# |
| 5 | PORT 2R | 6 | SENSE1_RETURN |
| 7 | SENSE_SEND | 8 | KEY |
| 9 | PORT 2L | 10 | SENSE2_RETURN |

### SPDIFO: SPDIF out header

This is an optional header that provides an S/PDIF (Sony/Philips Digital Interface) output to digital multimedia device through optical fiber or coaxial connector.

| Pin | Signal Name | Function |
|---|---|---|
| 1 | SPDIF | SPDIF digital output |
| 2 | +5VA | 5V analog Power |
| 3 | Key | No pin |
| 4 | GND | Ground |

### F_USB1~4: Front Panel USB headers

The motherboard has four USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB connector to connect the front-mounted ports to the motherboard.

| Pin | Signal Name | Function |
|---|---|---|
| 1 | USBPWR | Front Panel USB Power |
| 2 | USBPWR | Front Panel USB Power |
| 3 | USB_FP_P0- | USB Port 0 Negative Signal |
| 4 | USB_FP_P1- | USB Port 1 Negative Signal |
| 5 | USB_FP_P0+ | USB Port 0 Positive Signal |
| 6 | USB_FP_P1+ | USB Port 1 Positive Signal |
| 7 | GND | Ground |
| 8 | GND | Ground |
| 9 | Key | No pin |
| 10 | NC | Not connected |

*Please make sure that the USB cable has the same pin assignment as indicated above. A different pin assignment may cause damage or system hang-up.*

### SATA1~6: Serial ATA connectors

These connectors are used to support the new Serial ATA devices for the highest date transfer rates (3.0 Gb/s), simpler disk drive cabling and easier PC assembly. It eliminates limitations of the current Parallel ATA interface. But maintains register compatibility and software compatibility with Parallel ATA.

| Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|
| 1 | Ground | 2 | TX+ |
| 3 | TX- | 4 | Ground |
| 5 | RX- | 6 | RX+ |
| 7 | Ground | - | - |

### CD_IN: Analog Audio Input connector

| Pin | Signal Name | Function |
|---|---|---|
| 1 | CD_L | CD In left channel |
| 2 | GND | Ground |
| 3 | GND | Ground |
| 4 | CD_R | CD In right channel |

## *Installing a Hard Disk Drive/CD-ROM/SATA Hard Drive*

This section describes how to install IDE devices such as a hard disk drive and a CD-ROM drive.

### About IDE Devices

Your motherboard has one IDE interface.

#### IDE: IDE Connector

This motherboard supports six high data transfer SATA ports with each runs up to 3.0 Gb/s. To get better system performance, we recommend users connect the CD-ROM to the IDE channel, and set up the hard drives on the SATA ports.

IDE devices enclose jumpers or switches used to set the IDE device as MASTER or SLAVE. Refer to the IDE device user's manual. Installing two IDE devices on one cable, ensure that one device is set to MASTER and the other device is set to SLAVE. The documentation of your IDE device explains how to do this.

### About SATA Connectors

Your motherboard features six SATA connectors supporting a total of six drives. SATA refers to Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate the SATA connectors on the motherboard and follow the illustration below to install the SATA hard drives.

### Installing Serial ATA Hard Drives

To install the Serial ATA (SATA) hard drives, use the SATA cable that supports the Serial ATA protocol. This SATA cable comes with a SATA power cable. You can connect either end of the SATA cable to the SATA hard drive or the connector on the motherboard.

**SATA cable** (optional)

**SATA power cable** (optional)

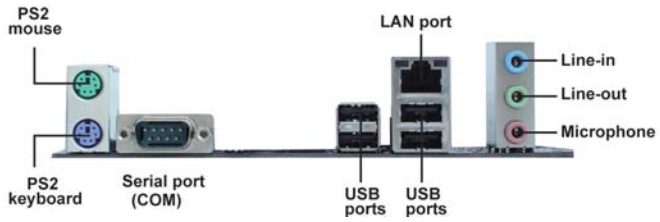
Refer to the illustration below for proper installation:

1 Attach either cable end to the connector on the motherboard.
2 Attach the other cable end to the SATA hard drive.
3 Attach the SATA power cable to the SATA hard drive and connect the other end to the power supply.

*This motherboard does not support the "Hot-Plug" function.*

## Connecting I/O Devices

The backplane of the motherboard has the following I/O ports:




**PS2 Mouse** Use the upper PS/2 port to connect a PS/2 pointing device.

**PS2 Keyboard** Use the lower PS/2 port to connect a PS/2 keyboard.

**Serial Port (COM)** Use the COM port to connect serial devices such as mice or fax/modems.

**USB Ports** Use the USB ports to connect USB devices.

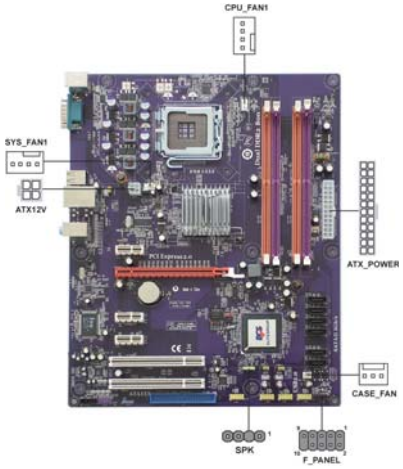
**LAN Port** Connect an RJ-45 jack to the LAN port to connect your computer to the network.

**Audio Ports** Use the three audio ports to connect audio devices. The first jack is for stereo line-in signal. The second jack is for stereo line-out signal. The third jack is for microphone.

## Connecting Case Components

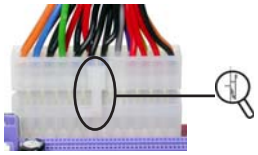
After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:

1. Connect the CPU cooling fan cable to **CPU_FAN1**.
2. Connect the system cooling fan connector to **SYS_FAN1**.
3. Connect the case cooling fan connector to **CASE_FAN**.
4. Connect the standard power supply connector to **ATX_POWER**.
5. Connect the auxiliary case power supply connector to **ATX12V**.
6. Connect the case switches and indicator LEDs to the **F_PANEL**.
7. Connect the case speaker cable to **SPK**.




### *Connecting 24-pin power cable*

The ATX 24-pin connector allows you to connect to ATX v2.x power supply.

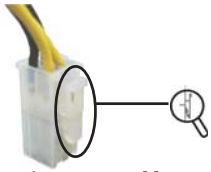


*24-pin power cable*

With ATX v2.x power supply, users please note that when installing 24-pin power cable, the latches of power cable and the ATX_POWER match perfectly.

### *Connecting 4-pin power cable*

The ATX12V power connector is used to provide power to the CPU.



*4-pin power cable*

When installing 4-pin power cable, the latches of power cable and the ATX12V match perfectly.

### CPU_FAN1/SYS_FAN1: Cooling FAN Power Connector

| Pin | Signal Name | Function |
|---|---|---|
| 1 | GND | System Ground |
| 2 | +12V | Power +12V |
| 3 | Sense | Sensor |
| 4 | Control | CPU FAN control |

*Users please note that the fan connector supports the CPU cooling fan of 1.1A ~ 2.2A (26.4W max) at +12V.*

### CASE_FAN: Case cooling FAN Power Connector

| Pin | Signal Name | Function |
|---|---|---|
| 1 | GND | System Ground |
| 2 | +12V | Power +12V |
| 3 | Sense | Sensor |

### ATX_POWER: ATX 24-pin Power Connector

| Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|
| 1 | +3.3V | 13 | +3.3V |
| 2 | +3.3V | 14 | -12V |
| 3 | Ground | 15 | Ground |
| 4 | +5V | 16 | PS_ON |
| 5 | Ground | 17 | Ground |
| 6 | +5V | 18 | Ground |
| 7 | Ground | 19 | Ground |
| 8 | PWRGD | 20 | -5V |
| 9 | +5VSB | 21 | +5V |
| 10 | +12V | 22 | +5V |
| 11 | +12V | 23 | +5V |
| 12 | +3.3V | 24 | Ground |

### ATX12V: ATX 12V Power Connector

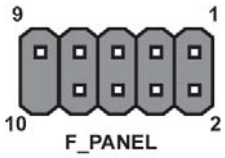
| Pin | Signal Name |
|---|---|
| 1 | Ground |
| 2 | Ground |
| 3 | +12V |
| 4 | +12V |

### SPK: Internal speaker header

| Pin | Signal Name |
|---|---|
| 1 | VCC |
| 2 | Key |
| 3 | GND |
| 4 | Signal |

### *Front Panel Header*

The front panel header (F_PANEL) provides a standard set of switch and LED headers commonly found on ATX or Micr ATX cases. Refer to the table below for information:




| Pin | Signal | Function | Pin | Signal | Function |
|---|---|---|---|---|---|
| 1 | HD_LED_P | Hard disk LED (+) | 2 | FP PWR/SLP | *MSG LED (+) |
| 3 | HD_LED_N | Hard disk LED (-) | 4 | FP PWR/SLP | *MSG LED (-) |
| 5 | RST_SW_N | Reset Switch (-) | 6 | PWR_SW_P | Power Switch (+) |
| 7 | RST_SW_P | Reset Switch (+) | 8 | PWR_SW_N | Power Switch (-) |
| 9 | RSVD | Reserved | 10 | Key | No pin |

** MSG LED (dual color or single color)*

#### *Hard Drive Activity LED*

Connecting pins 1 and 3 to a front panel mounted LED provides visual indication that data is being read from or written to the hard drive. For the LED to function properly, an IDE drive should be connected to the onboard IDE interface. The LED will also show activity for devices connected to the SCSI (hard drive activity LED) connector.

#### *Power/Sleep/Message waiting LED*

Connecting pins 2 and 4 to a single or dual-color, front panel mounted LED provides power on/off, sleep, and message waiting indication.

#### *Reset Switch*

Supporting the reset function requires connecting pin 5 and 7 to a momentary-contact switch that is normally open. When the switch is closed, the board resets and runs POST.

#### *Power Switch*

Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal de-bounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

This concludes Chapter 2. The next chapter covers the BIOS.

Chapter 3

*Using BIOS*

## About the Setup Utility

The computer uses the latest "American Megatrends Inc. " BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

### *The Standard Configuration*

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:

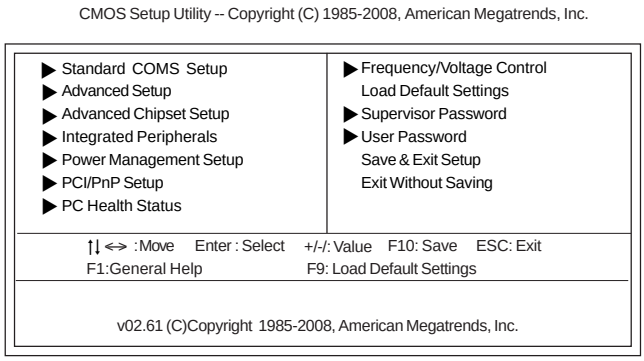
- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

### *Entering the Setup Utility*

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

***Press DEL to enter SETUP***

Press the delete key to access the BIOS Setup Utility.


CMOS Setup Utility -- Copyright (C) 1985-2008, American Megatrends, Inc.
▶ Standard COMS Setup
▶ Advanced Setup
▶ Advanced Chipset Setup
▶ Integrated Peripherals
▶ Power Management Setup
▶ PCI/PnP Setup
▶ PC Health Status
▶ Frequency/Voltage Control
Load Default Settings
▶ Supervisor Password
▶ User Password
Save & Exit Setup
Exit Without Saving
↑↓ <-> :Move Enter : Select +/-/: Value F10: Save ESC: Exit
F1:General Help F9: Load Default Settings
v02.61 (C)Copyright 1985-2008, American Megatrends, Inc.

## Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ▶) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ▶.

*The default BIOS setting for this motherboard applies for most conditions with optimum performance. It is not suggested to change the default values in the BIOS setup and the manufacture takes no responsibility to any damage caused by changing the BIOS settings.*

### *BIOS Navigation Keys*

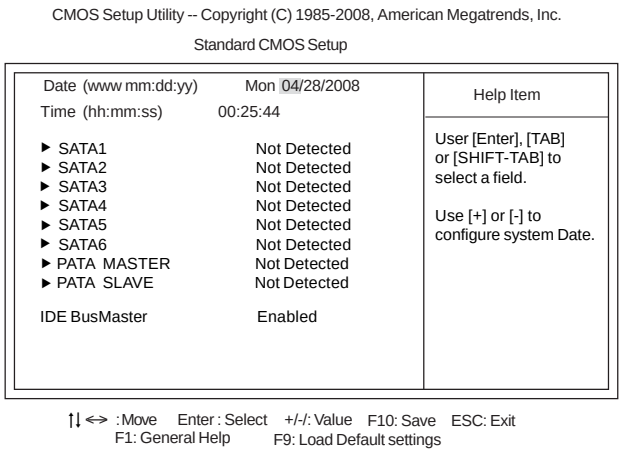
The BIOS navigation keys are listed below:

| KEY | FUNCTION |
|---|---|
| **ESC** | Exits the current menu |
| ↑↓ <-> | Scrolls through the items on a menu |
| **+/-/PU/PD** | Modifies the selected field's values |
| **Enter** | Select |
| **F9** | Load a default optimized setting |
| **F10** | Saves the current configuration and exits setup |
| **F1** | Displays a screen that describes all key functions |

*For the purpose of better product maintenance, the manufacture reserves the right to change the BIOS items presented in this manual. The BIOS setup screens shown in this chapter are for reference only and may differ from the actual BIOS. Please visit the manufacture's website for updated manual.*

## *Standard CMOS Setup*

This option displays basic information about your system.

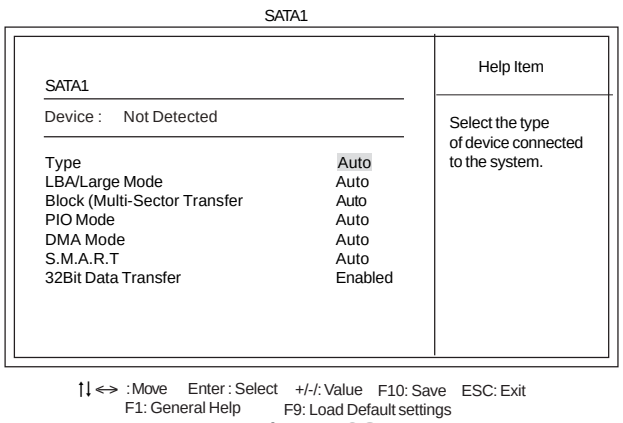

CMOS Setup Utility -- Copyright (C) 1985-2008, American Megatrends, Inc.
Standard CMOS Setup
Date (www mm:dd:yy) Mon 04/28/2008
Time (hh:mm:ss) 00:25:44
► SATA1 Not Detected
► SATA2 Not Detected
► SATA3 Not Detected
► SATA4 Not Detected
► SATA5 Not Detected
► SATA6 Not Detected
► PATA MASTER Not Detected
► PATA SLAVE Not Detected
IDE BusMaster Enabled
Help Item
User [Enter], [TAB] or [SHIFT-TAB] to select a field.
Use [+] or [-] to configure system Date.
↑↓ <-> :Move Enter : Select +/-/: Value F10: Save ESC: Exit
F1: General Help F9: Load Default settings

### Date & Time

The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

### ► SATA1~6/PATA MASTER/SLAVE

This motherboard supports six SATA channels and each channel allows one SATA device to be installed. Use these items to configure each device on the SATA channel.


CMOS SETUP UTILITY - Copyright (C) 1985-2008, American Megatrends, Inc.
SATA1
SATA1
Device : Not Detected
Type Auto
LBA/Large Mode Auto
Block (Multi-Sector Transfer Auto
PIO Mode Auto
DMA Mode Auto
S.M.A.R.T Auto
32Bit Data Transfer Enabled
Help Item
Select the type of device connected to the system.
↑↓ <-> :Move Enter : Select +/-/: Value F10: Save ESC: Exit
F1: General Help F9: Load Default settings

***Type (Auto)***

Use this item to configure the type of the IDE device that you specify. If the feature is enabled, it will enhance hard disk performance by reading or writing more data during each transfer.

***LBA/Large Mode (Auto)***

Use this item to set the LBA/Large mode to enhance hard disk performance by optimizing the area the hard disk is visited each time.

***Block (Multi-Sector Transfer (Auto)***

If the feature is enabled, it will enhance hard disk performance by reading or writing more data during each transfer.

***PIO Mode (Auto)***

Use this item to set the PIO mode to enhance hard disk performance by optimizing the hard disk timing.

***DMA Mode (Auto)***

DMA capability allows user to improve the transfer-speed and data-integrity for compatible IDE devices.

***S.M.A.R.T. (Auto)***

The S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance. S.M.A.R.T. software resides on both the disk drive and the host computer.

***32Bit Data Transfer (Enabled)***

Use this item to enable or disable 32Bit Data Transfer.

Press <Esc> to return to the Standard CMOS Setup page.

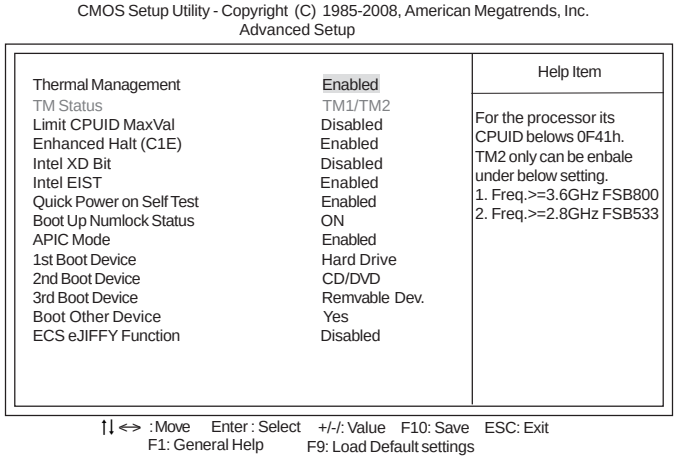
**IDE BusMaster (Enabled)**

This item enables or disables the DMA under DOS mode. We recommend you to leave this item at the default value.

Press <Esc> to return to the main menu setting page.

## *Advanced Setup*

This page sets up more advanced information about your system. Handle this page with caution. Any changes can affect the operation of your computer.


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Advanced Setup
Thermal Management Enabled
TM Status TM1/TM2
Limit CPUID MaxVal Disabled
Enhanced Halt (C1E) Enabled
Intel XD Bit Disabled
Intel EIST Enabled
Quick Power on Self Test Enabled
Boot Up Numlock Status ON
APIC Mode Enabled
1st Boot Device Hard Drive
2nd Boot Device CD/DVD
3rd Boot Device Remvable Dev.
Boot Other Device Yes
ECS eJIFFY Function Disabled
Help Item
For the processor its CPUID belows 0F41h. TM2 only can be enbale under below setting.
1. Freq.>=3.6GHz FSB800
2. Freq.>=2.8GHz FSB533
↑↓<-> :Move Enter : Select +/-/: Value F10: Save ESC: Exit
F1: General Help F9: Load Default settings

**Thermal Management (Enabled)**
This item displays CPU temperature and enables you to set a safe temperature to Prescott CPU.

**TM Status (TM1/TM2)**
This item displays CPU Monitor status.

**Limit CPUID MaxVal (Disabled)**

Use this item to enable or disable the Max CPU ID value limit. When suppports Prescott and LGA775 CPUs, enables this to prevent the system from “rebooting” when trying to install Windows NT 4.0.

**Enhanced Halt (C1E) (Enabled)**
This item enables or disables enhanced halt.

**Intel XD Bit (Disabled)**

This item enables or disables the Intel XD Bit technology.

**Intel EIST (Enabled)**

This item allows users to enable or disable the EIST (Enhanced Intel Speedstep Technology) function. This item shows only if the CPU supports EIST.

**Quick Power on Self Test (Enabled)**

Enable this item to shorten the power on testing (POST) and have your system start up faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.

**Boot Up Numlock Status (ON)**

This item defines if the keyboard Num Lock key is active when your system is started.

### APIC Mode (Enabled)

This item allows you to enable or disable the APCI (Advanced Programmable Interrupt Controller) mode. APIC provides symmetric multi-processing (SMP) for systems, allowing support for up to 60 processors.

### 1st/2nd/3rd Boot Device (Hard Drive/CD/DVD/Remvable Dev.)

Use this item to determine the device order the computer used to look for an operating system to load at start-up time. The devices showed here will be different depending on the exact devices installed on your motherboard.

### Boot Other Device (Yes)

When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the First, Second and Third boot devices.

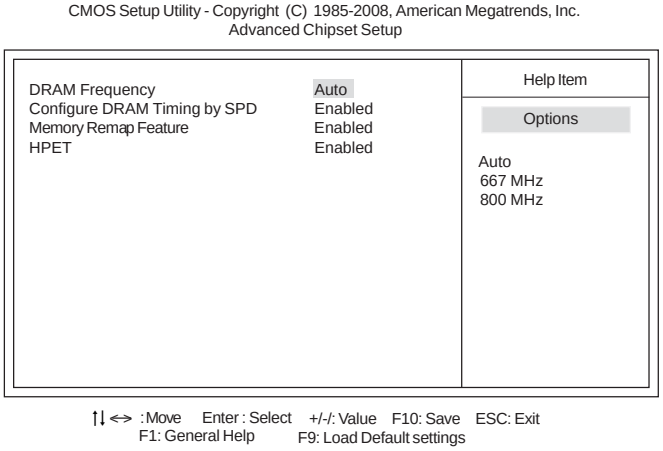
### ECS eJIFFY Function (Disabled)

Use this item to enable or disable the ECS eJIFFY Function. eJIFFY is ECS unique software program for the quick access to the internet without entering O.S. Please refer to Chapter 5 to know more about eJIFFY.

Press <Esc> to return to the main menu setting page.

## *Advanced Chipset Setup*

This page sets up more advanced information about your system. Handle this page with caution. Any changes can affect the operation of your computer.




**DRAM Frequency (Auto)**
This item enables users to adjust the DRAM frequency. The defual setting is auto and we recommend users leave the setting unchanged. Modify it at will may case the system to be unstable.

**Configure DRAM Timing by SPD (Enable)**
When this item is set to enable, the DDR timing is configure using SPD. SPD (Serial Presence Delete) is located on the memory modules, BIOS reads information coded in SPD durinbg system boot up.

**Memory Remap Feature (Enabled)**
This item allows users to enable or disable memory hole remapping.

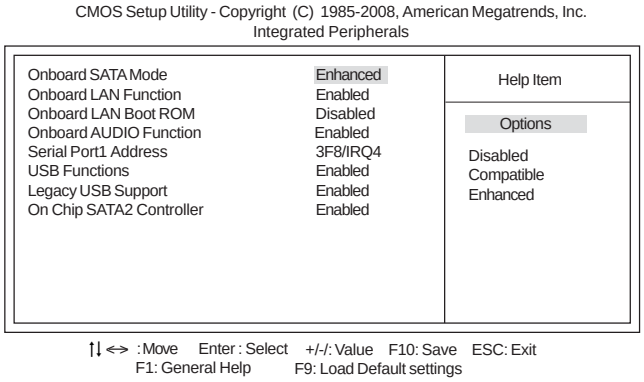
**HPET (Enabled)**

This item enables or disables HPET (High Precision Event Timer) support.

Press <Esc> to return to the main menu setting page.

## *Integrated Peripherals*

This page sets up some parameters for peripheral devices connected to the system.




**Onboard SATA Mode (Enhanced)**

Use this item to select the mode of the Serial ATA.

**OnBoard LAN Function (Enabled)**

Use this item to enable or disable the onboard LAN function.

**OnBoard LAN Boot ROM (Disabled)**

Use this item to enable or disable the booting from the onboard LAN or a network add-in card with a remote boot ROM installed.

**Onboard AUDIO Function (Enabled)**

Use this item to enable or disable the onboard Audio function.

**Serial Port1 Address (3F8/IRQ4)**

Use this item to enable or disable the onboard COM1 serial port, and to assign a port address.

**USB Functions (Enabled)**

Use this item to enable or disable the USB function.

**Legacy USB Support (Enabled)**

Use this item to enable or disable support for legacy USB devices.

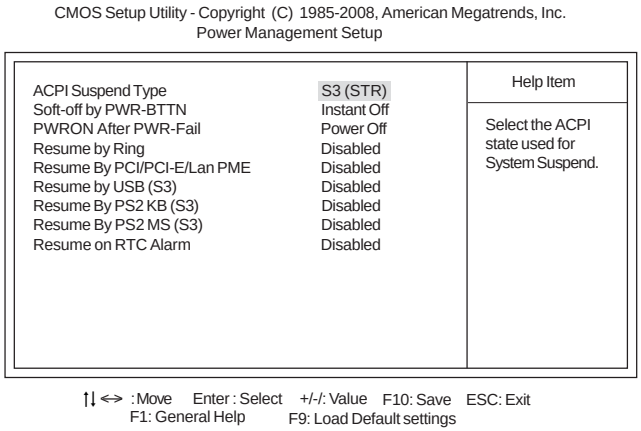
**On Chip SATA2 Controller (Enabled)**

This item allows you to enable or disable the onchip Serial ATA controller.

Press <Esc> to return to the main menu setting page.

## *Power Management Setup*

This page sets up some parameters for system power management operation.




### ACPI Suspend Type (S3)

Use this item to define how your system suspends. In the default, S3, the suspend mode is a suspend to RAM, i.e, the system shuts down with the exception of a refresh current to the system memory.

### Soft-off by PWR-BTTN (Instant off)

Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec, then you have to hold the power button down for four seconds to cause a software power down.

### PWRON After PWR-Fail (Power Off)

This item enables your computer to power off, automatically restart or return to its previous status after abnormal power lost.

### Resume By Ring (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the Modem. You must use an ATX power supply in order to use this feature.

### Resume By PCI/PCI-E/Lan PME (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the PCI Modem or PCI LAN card. You must use an ATX power supply in order to use this feature. Use this item to do wake-up action if inserting the PCI card.

### Resume By USB (S3) (Disabled)

This item allows you to enable/disable the USB device wakeup function from S3 mode.

**Resume By PS2 KB (S3) (Disabled)**
This item enables or disables you to allow keyboard activity to awaken the system from S3 mode.

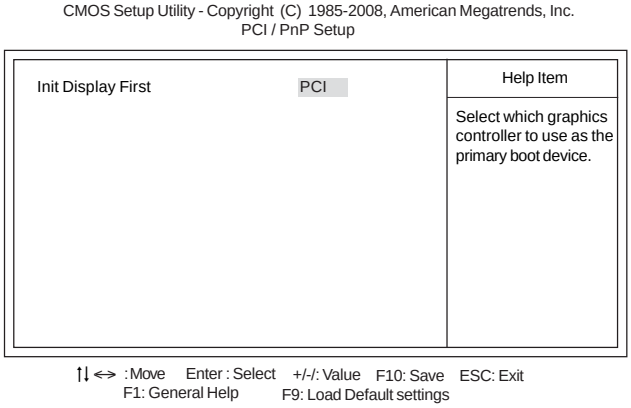
**Resume By PS2 MS (S3) (Disabled)**
This item enables or disables you to allow mouse activity to awaken the system from S3 mode.

**Resume on RTC Alarm (Disabled)**
The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC (realtime clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.

Press <Esc> to return to the main menu setting page.

## *PCI / PnP Setup*

This page sets up some parameters for devices installed on the PCI bus and those utilizing the system plug and play capability.


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
PCI / PnP Setup
Init Display First
PCI
Help Item
Select which graphics controller to use as the primary boot device.
↑↓ <-> :Move Enter : Select +/-/: Value F10: Save ESC: Exit
F1: General Help
F9: Load Default settings

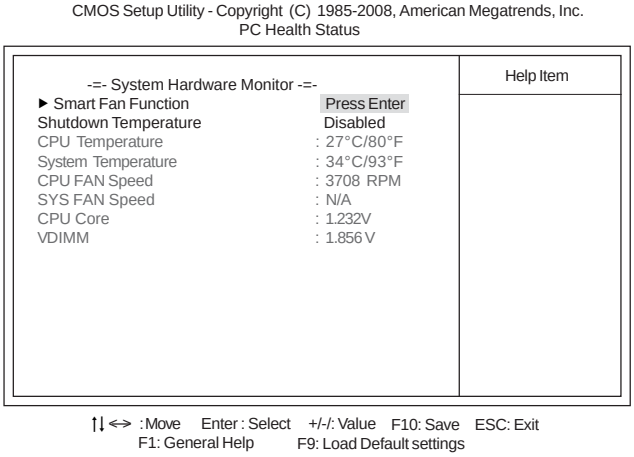
**Init Display First (PCI)**

Use this item to select which graphics controller to use as the primary boot devices.

Press <Esc> to return to the main menu setting page.

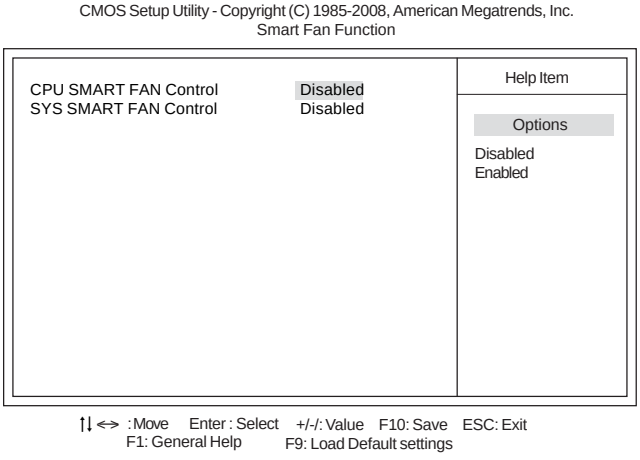
## *PC Health Status*

On motherboards support hardware monitoring, this item lets you monitor the parameters for critical voltages, temperatures and fan speeds.




### ► Smart Fan Function

Scroll to this item and press <Enter> to view the following screen:




### ***CPU/SYS SMART FAN Control (Disabled)***

These items enable you to define the CPU/System temperatur by smartly adjustingthe CPU/System fan. When it is set at certain temperature, the CPU/SYS Fan PWM value will change accordingly.

Press <Esc> to return to the PC Health Status page.

**Shutdown Temperature(Disabled)**

Enable you to set the maximum temperature the system can reach before powering down.

**System Component Characteristics**

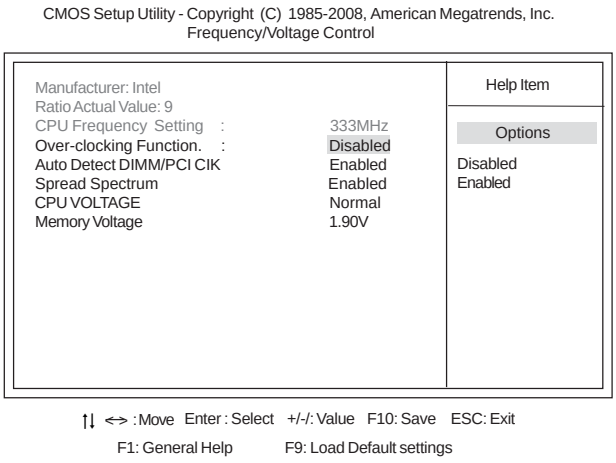
These items display the monitoring of the overall inboard hardware health events, such as System & CPU temperature, CPU & DIMM voltage, CPU & system fan speed,...etc.

- CPU Temperature
- System Temperature
- CPU FAN Speed
- SYS FAN Speed
- CPU Core
- VDIMM

Press <Esc> to return to the main menu setting page.

## *Frequency/Voltage Control*

This page enables you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Frequency/Voltage Control
Manufacturer: Intel
Ratio Actual Value: 9
CPU Frequency Setting : 333MHz
Over-clocking Function. : Disabled
Auto Detect DIMM/PCI CIK Enabled
Spread Spectrum Enabled
CPU VOLTAGE Normal
Memory Voltage 1.90V
Help Item
Options
Disabled
Enabled
↑↓ <-> : Move Enter : Select +/-/: Value F10: Save ESC: Exit
F1: General Help F9: Load Default settings

**Manufacturer: Intel**

This item displays the information of current manufacturer of the CPU installed in your computer.

**Ratio Actual Value: 9**

This item shows the actual ratio of the CPU installed in your system.

**CPU Frequency Setting (333MHz)**

This item is used to set the CPU Frequency.

**Over-clocking Function. (Disabled)**

This item decides the CPU over-clocking function/frequency installed in your system. If the over-clocking fails, please turn off the system power. And then, hold the PageUp key ( similar to the Clear CMOS function) and turn on the power, the BIOS will recover the safe default.

**Auto Detect DIMM/PCI Clk (Enabled)**

When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.

**Spread Spectrum (Enabled)**

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

**CPU VOLTAGE (Normal)**

This item allows users to adjust the CPU voltage.

**Memory Voltage (1.90V)**

This item allows users to adjust the DDR memory voltage.

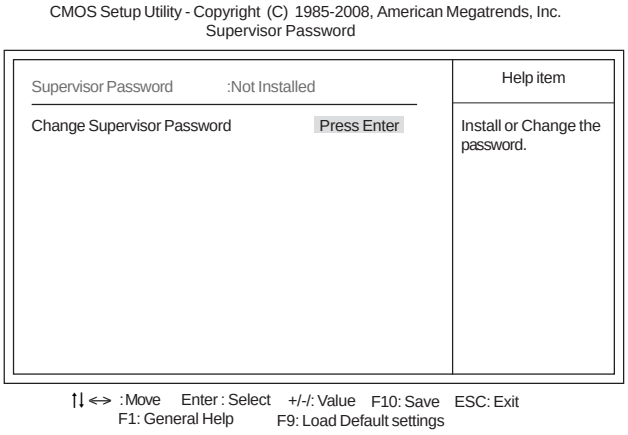
Press <Esc> to return to the main menu setting page.

### *Load Default Settings*

This option opens a dialog box to ask if you are sure to install optimized defaults or not. You select [OK], and then <Enter>, the Setup Utility loads all default values; or select [Cancel], and then <Enter>, the Setup Utility does not load default values.

### *Supervisor Password*

This page helps you install or change a password.


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Supervisor Password
Supervisor Password :Not Installed
Change Supervisor Password
Press Enter
Help item
Install or Change the password.
↑↓ <-> :Move Enter : Select +/-/: Value F10: Save ESC: Exit
F1: General Help
F9: Load Default settings

#### Supervisor Password (Not Installed)

This item indicates whether a supervisor password has been set. If the password has been installed, *Installed* displays. If not, *Not Installed* displays.

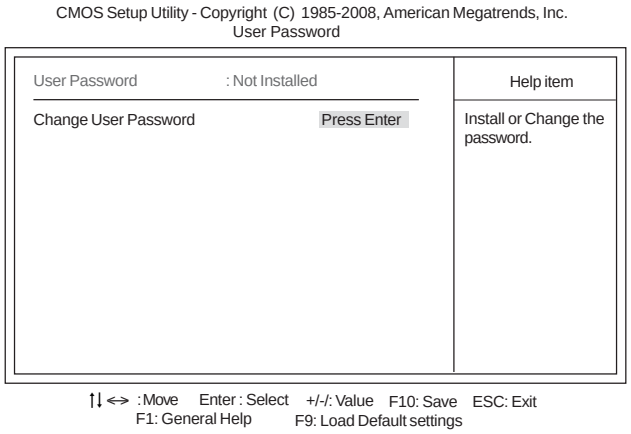
#### Change Supervisor Password (Press Enter)

You can select this option and press <Enter> to access the sub menu. You can use the sub menu to change the supervisor password.

Press <Esc> to return to the main menu setting page.

## *User Password*

This page helps you install or change a password.


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
User Password
User Password : Not Installed
Change User Password Press Enter
Help item
Install or Change the password.
↑↓ ↔ : Move Enter : Select +/-/: Value F10: Save ESC: Exit
F1: General Help F9: Load Default settings

### User Password (Not Installed)

This item indicates whether a user password has been set. If the password has been installed, *Installed* displays. If not, *Not Installed* displays.

### Change User Password (Press Enter)

You can select this option and press <Enter> to access the sub menu. You can use the sub menu to change the user password. This item will show if the supervisor password is set.

Press <Esc> to return to the main menu setting page.

## *Save & Exit Setup*

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, select [OK] to save and exit, or select [Cancel] to return to the main menu.

## *Exit Without Saving*

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, select [OK] to discard changes and exit, or select [Cancel] to return to the main menu.

*If you have made settings that you do not want to save, use the "Exit Without Saving" item and select [OK] to discard any changes you have made.*

### *Updating the BIOS*

You can download and install updated BIOS for this motherboard from the manufacturer's Web site. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

1. If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
2. If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.)
3. Create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
4. Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the bootable device.
5. Turn off your computer and insert the bootable device in your computer. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the bootable device first.)
6. At the C:\ or A:\ prompt, type the Flash Utility program name and the file name of the new bios and then press <Enter>. Example: AMINF340.EXE 040706.ROM
7. When the installation is complete, remove the bootable device from the computer and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten. The computer will restart automatically.

This concludes Chapter 3. Refer to the next chapter for information on the software supplied with the motherboard.

Chapter 4

*Using the Motherboard Software*

## About the Software DVD-ROM/CD-ROM

The support software DVD-ROM/CD-ROM that is included in the motherboard package contains all the drivers and utility programs needed to properly run the bundled products. Below you can find a brief description of each software program, and the location for your motherboard version. More information on some programs is available in a README file, located in the same directory as the software. Before installing any software, always inspect the folder for files named README.TXT or something similar. These files may contain important information that is not included in this manual.

1. *Never try to install all software from folder that is not specified for use with your motherboard.*
2. *The notice of Intel HD audio installation (optional): The Intel High Definition audio functionality unexpectedly quits working in Windows Server 2003 Service Pack 1 or Windows XP Professional x64 Edition. Users need to download and install the update packages from the Microsoft Download Center "before" installing HD audio driver bundled in the Driver disk. Please log on to http://support.microsoft.com/default.aspx?scid=kb;en-us;901105#appliesto for more information.*

## Auto-installing under Windows XP/Vista/7

The Auto-install DVD-ROM/CD-ROM makes it easy for you to install the drivers and software for your motherboard.

*If the Auto-install DVD-ROM/CD-ROM does not work on your system, you can still install drivers through the file manager for your OS (for example, Windows Explorer). Refer to the Utility Folder Installation Notes later in this chapter.*

The support software DVD-ROM/CD-ROM disc loads automatically under Windows XP/Vista/7. When you insert the DVD-ROM/CD-ROM disc in the DVD-ROM/CD-ROM drive, the autorun feature will automatically bring up the install screen. The screen has three buttons on it, Setup, Browse CD and Exit.

*If the opening screen does not appear; double-click the file "setup.exe" in the root directory.*

### Drivers Tab

| | |
|---|---|
| **Setup** | Click the **Setup** button to run the software installation program. Select from the menu which software you want to install. |
| **Browse CD** | The **Browse CD** button is the standard Windows command that allows you to open Windows Explorer and show the contents of the support disk.<br><br>Before installing the software from Windows Explorer, look for a file named README.TXT or something similar. This file may contain important information to help you install the software correctly.<br><br>Some software is installed in separate folders for different operating systems, such as Windows XP/Vista/7. Always go to the correct folder for the kind of OS you are using.<br><br>In install the software, execute a file named SETUP.EXE by double-clicking the file and then following the instructions on the screen. |
| **Exit** | The **EXIT** button closes the Auto Setup window. |

### Utilities Tab

Lists the software utilities that are available on the disk.

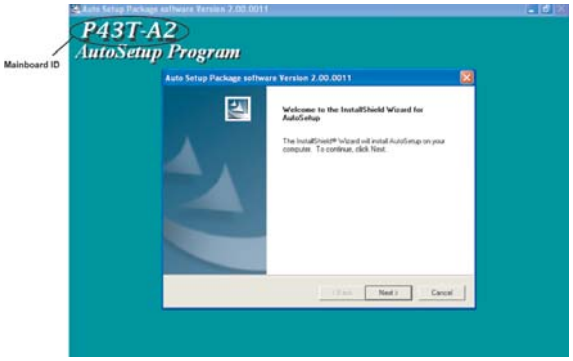
### Information Tab

Displays the path for all software and drivers available on the disk.

## *Running Setup*

*Follow these instructions to install device drivers and software for the motherboard:*

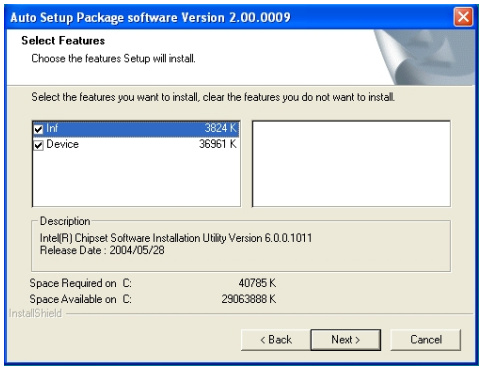
1. *Click **Setup**. The installation program begins:*



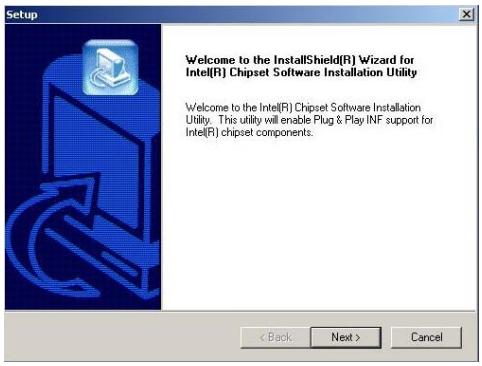

*The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.*

The motherboard identification is located in the upper left-hand corner.

2. *Click **Next.** The following screen appears:*


Auto Setup Package software Version 2.00.0009
Select Features
Choose the features Setup will install.
Select the features you want to install, clear the features you do not want to install.
Inf 3824 K
Device 36961 K
Description
Intel(R) Chipset Software Installation Utility Version 6.0.0.1011
Release Date : 2004/05/28
Space Required on C: 40785 K
Space Available on C: 29063888 K
InstallShield
< Back
Next >
Cancel

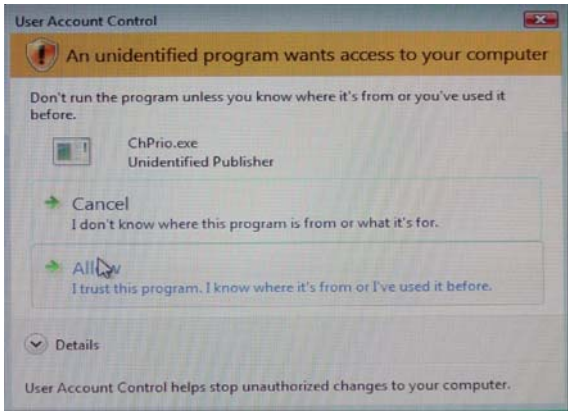
3. *Check the box next to the items you want to install. The default options are recommended.*
4. *Click **Next** run the Installation Wizard. An item installation screen appears:*


Setup
Welcome to the InstallShield(R) Wizard for Intel(R) Chipset Software Installation Utility
Welcome to the Intel(R) Chipset Software Installation Utility. This utility will enable Plug & Play INF support for Intel(R) chipset components.
< Back
Next >
Cancel

5. *Follow the instructions on the screen to install the items.*

Drivers and software are automatically installed in sequence. Follow the onscreen instructions, confirm commands and allow the computer to restart a few times to complete the installation.

Windows Vista/7 will appear below UAC (User Account Control) message after the system restart. You must select "Allow" to install the next driver. Continue this process to complete the drivers installation.


User Account Control
An unidentified program wants access to your computer
Don't run the program unless you know where it's from or you've used it before.
ChPrio.exe
Unidentified Publisher
Cancel
I don't know where this program is from or what it's for.
Allow
I trust this program. I know where it's from or I've used it before.
Details
User Account Control helps stop unauthorized changes to your computer.

## Manual Installation

Insert the disk in the DVD-ROM/CD-ROM drive and locate the PATH.DOC file in the root directory. This file contains the information needed to locate the drivers for your motherboard.

Look for the chipset and motherboard model; then browse to the directory and path to begin installing the drivers. Most drivers have a setup program (SETUP.EXE) that automatically detects your operating system before installation. Other drivers have the setup program located in the operating system subfolder.

If the driver you want to install does not have a setup program, browse to the operating system subfolder and locate the readme text file (README.TXT or README.DOC) for information on installing the driver or software for your operating system.

## Utility Software Reference

All the utility software available from this page is Windows compliant. They are provided only for the convenience of the customer. The following software is furnished under license and may only be used or copied in accordance with the terms of the license.

*These software(s) are subject to change at anytime without prior notice. Please refer to the support disk for available software.*

This concludes chapter 4.

Chapter 5

# *Setting Up eJIFFY*

## Introduction

eJIFFY is a fast boot program under Linux. Instead of waiting Windows O.S to start execution, eJIFFY is ready to provide users the instant enjoyment on web browsing, photo review and online chat just within several seconds after boot up.

Note: eJIFFY is ECS ***optional*** feature utility corresponding to the DVD activation and BIOS setup. Please check the hard copy user's guide or product color-box to see if the model has embodded eJIFFY feature. (eJIFFY icon on color-box )

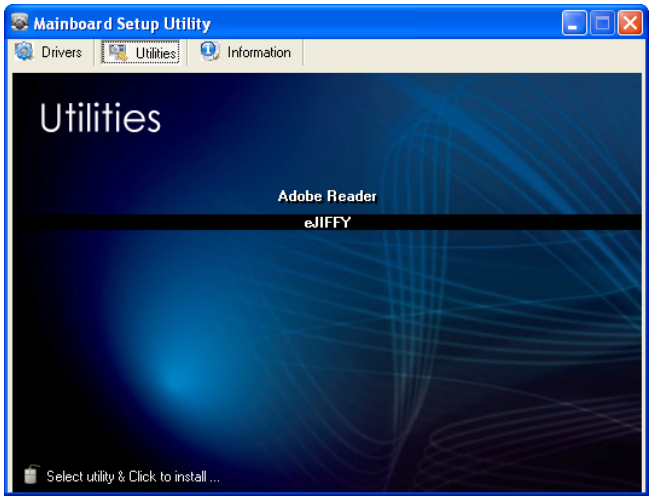
Version: 5.0

# Installation and BIOS Setup

## *DVD Activation*

Finish the DVD utility setup, and then set the BIOS to complete eJIFFY activation.

1. Insert ECS software utility DVD and enter below “Utilities” screen. Click eJIFFY feature item to install.




2. Follow the onscreen instructions to finish eJIFFY setup.

Setup - eJIFFY
Welcome to the eJIFFY Setup Wizard
This will install eJIFFY v1.1 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

3. After setting up eJIFFY under Windows, you can switch eJIFFY display/keyboard language from English to your local language. The changes will be applied after rebooting.

Note: The keyboard language selection list offers several more regional keyboard setups to switch with the default English typing. Please refer to the usage FAQ for more tips.

4. Restart your computer after eJIFFY installation. Press <DEL> or click the BIOS Setup button on the post screen to enter the BIOS setup page after boot up.

5. And then enter the *Advanced Setup* page to enable the item *ECS eJIFFY Function*. Press F10 to save the configuration and exit. Restart your computer.

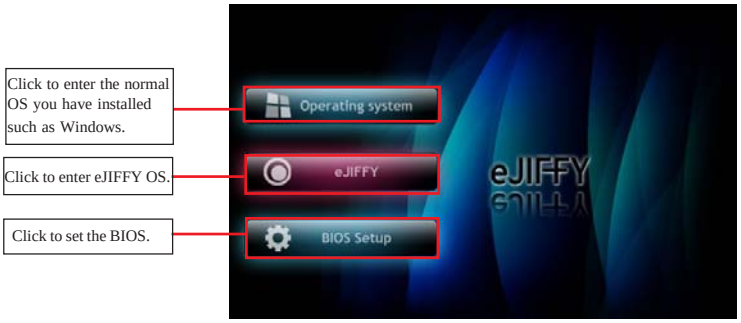
CMOS Setup Utility - Copyright (C) 1985-2007, American Megatrends, Inc.
Advanced Setup
HT Frequency Auto Auto
AMD C8Q Enabled
Quick Power on Self Test Enabled
Boot Up Numlock Status On
LOGO Display Enabled
APIC Mode Enabled
1st Boot Device ARY01 NVIDIA SPAN 1
2nd Boot Device CD/DVD
3rd Boot Device Removable Dev.
Hard Disk Drives Press Enter
Boot Other Device Yes
ECS eJIFFY Function Enabled
Restore Default Settings No
Help Item
Options
Disabled
Enabled
↑↓↔:Move Enter:Select +/-/:Value F10:Save ESC:Exit
F1:General Help F9:Load Default Settings

Note: 1. eJIFFY is available in SATA/IDE/AHCI mode. It does not support RAID configuration and the onboard 34-pin floppy drives.

2. Please refer to ECS website for new eJIFFY application updates.

## Entering eJIFFY

The post screen appears within several seconds after boot up and it has three buttons on it, Operating system, eJIFFY and BIOS Setup.


Click to enter the normal OS you have installed such as Windows.
Click to enter eJIFFY OS.
Click to set the BIOS.
Operating system
eJIFFY
BIOS Setup
eJIFFY

If you click eJIFFY, the following screen will appear. And If you make no choice it will enter the normal OS automatically after ten seconds.

## Feature Icons

The following illustration shows the main feature icons that eJIFFY provides on the menu.

*eWeb: Firefox for web browsing/webmail and watching flash video.*

*ePix: Photo viewing.*

*ePal: On-line chat tool to use the most popular IMs in the world. (MSN, ICQ, AIM, etc.)*

*Shows ePal on-line connection status.*

*Shut Down/Restart: Ends your session and turns off the computer./Ends your session and restart the computer..*

*Click once to connect the storage disk to your computer. Click for the second time to remove your storage disk safely. (please refer to the FAQ for more usage information.)*

*Shows the network connection status.*

*Language Control Panel*

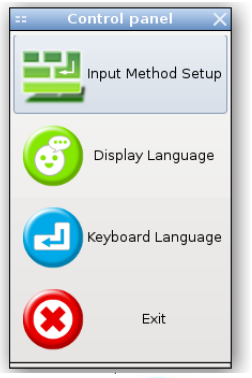
*Switch Keyboard Languages*

## Usage FAQ

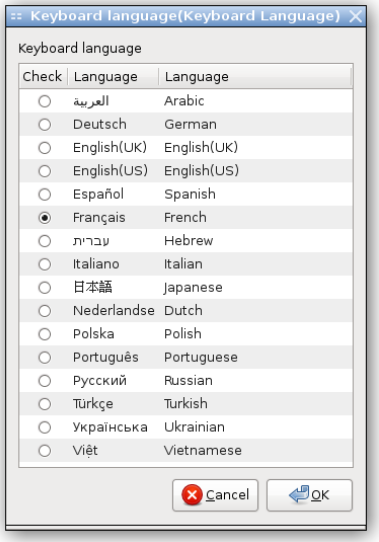
*Language Control Panel: Besides setting English as the default interface, eJIFFY offers multi-language displays and keyboard settings for language-switch. Open the language control panel to select a preferable language setting.*

### Keyboard Language Setup

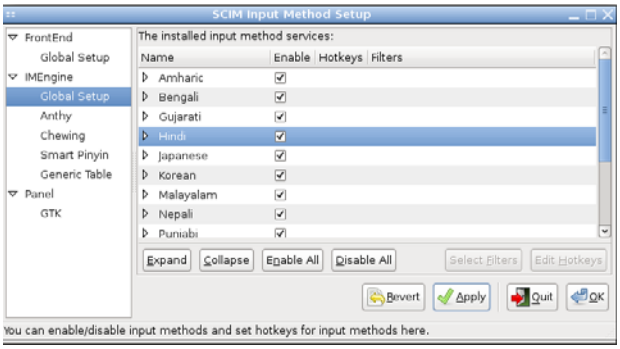
Step1. Click to open the language control panel.



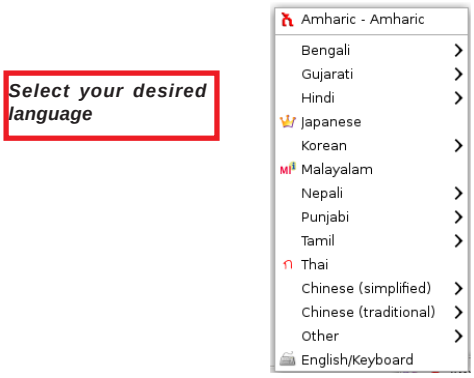

Step 2: Click “Keyboard Language” icon to open the keyboard selection list, which offers several regional keyboard settings besides default English keyboard.
Step 3: Click the selected keyboard language (e.g. French) and press “OK”.



Click to enable all possible language inputs you want to apply, and click "Apply":

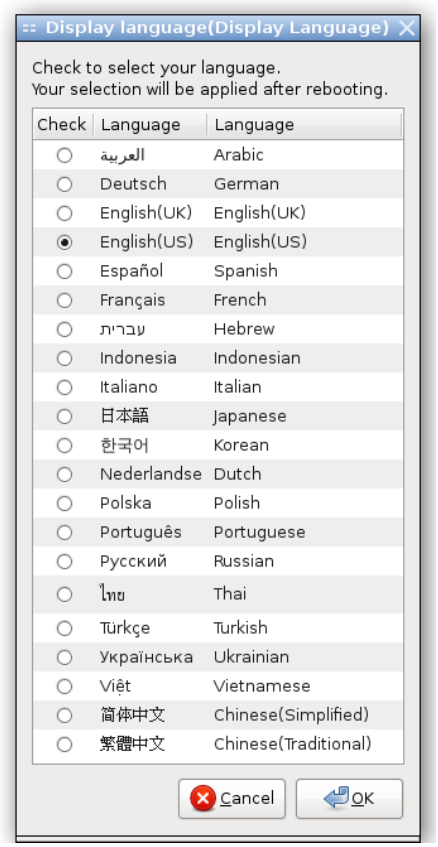


Move your mouse pointer on the text box and press Ctrl+Space. The language bar will then appear as follows.
Click the language bar here.



### How to change display language?

Open the Language Control Panel and click to show the display language list. Check your desired display language. Your selected display language will be applied after rebooting.




Note: *Details about eJIFFY please refer to eJIFFY in disk.*

*Memo*

Chapter 6

*Trouble Shooting*

## Start up problems during assembly

After assembling the PC for the first time you may experience some start up problems. Before calling for technical support or returning for warranty, this chapter may help to address some of the common questions using some basic troubleshooting tips.

### *a) System does not power up and the fans are not running.*

1.Disassemble the PC to remove the VGA adaptor card, DDR memory, LAN, USB and other peripherals including keyboard and mouse. Leave only the motherboard, CPU with CPU cooler and power supply connected. Turn on again to see if the CPU and power supply fans are running.

2. Make sure to remove any unused screws or other metal objects such as screwdrivers from the inside PC case. This is to prevent damage from short circuit.

3. Check the CPU FAN connector is connected to the motherboard.

4. For Intel platforms check the pins on the CPU socket for damage or bent. A bent pin may cause failure to boot and sometimes permanent damage from short circuit.

5. Check the 12V power connector is connected to the motherboard.

6. Check that the 12V power & ATX connectors are fully inserted into the motherboard connectors. Make sure the latches of the cable and connector are locked into place.

### *b) Power is on, fans are running but there is no display*

1. Make sure the monitor is turned on and the monitor cable is properly connected to the PC.
2. Check the VGA adapter card (if applicable) is inserted properly.
3. Listen for beep sounds. If you are using internal PC speaker make sure it is connected.
   a. continuous 3 short beeps : memory not detected
   b. 1 long beep and 8 short beeps : VGA not detected

### *c) The PC suddenly shuts down while booting up.*

1. The CPU may experience overheating so it will shutdown to protect itself. Ensure the CPU fan is working properly.
2. From the BIOS setting, try to disable the Smartfan function to let the fan run at default speed. Doing a Load Optimised Default will also disable the Smartfan.

## Start up problems after prolong use

After a prolong period of use your PC may experience start up problems again. This may be caused by breakdown of devices connected to the motherboard such as HDD, CPU fan, etc. The following tips may help to revive the PC or identify the cause of failure.

1. Clear the CMOS values using the CLR_CMOS jumper. Refer to CLR_CMOS jumper in Chapter 2 for Checking Jumper Settings in this user manual. When completed, follow up with a Load Optimised Default in the BIOS setup.

2. Check the CPU cooler fan for dust. Long term accumulation of dust will reduce its effectiveness to cool the processor. Clean the cooler or replace a new one if necessary.

3. Check that the 12V power & ATX connectors are fully inserted into the motherboard connectors. Make sure the latches of the cable and connector are locked into place.

4. Remove the hard drive, optical drive or DDR memory to determine which of these component may be at fault.

## Maintenance and care tips

Your computer, like any electrical appliance, requires proper care and maintenance. Here are some basic PC care tips to help prolong the life of the motherboard and keep it running as best as it can.

1. Keep your computer in a well ventilated area. Leave some space between the PC and the wall for sufficient airflow.

2. Keep your computer in a cool dry place. Avoid dusty areas, direct sunlight and areas of high moisture content.

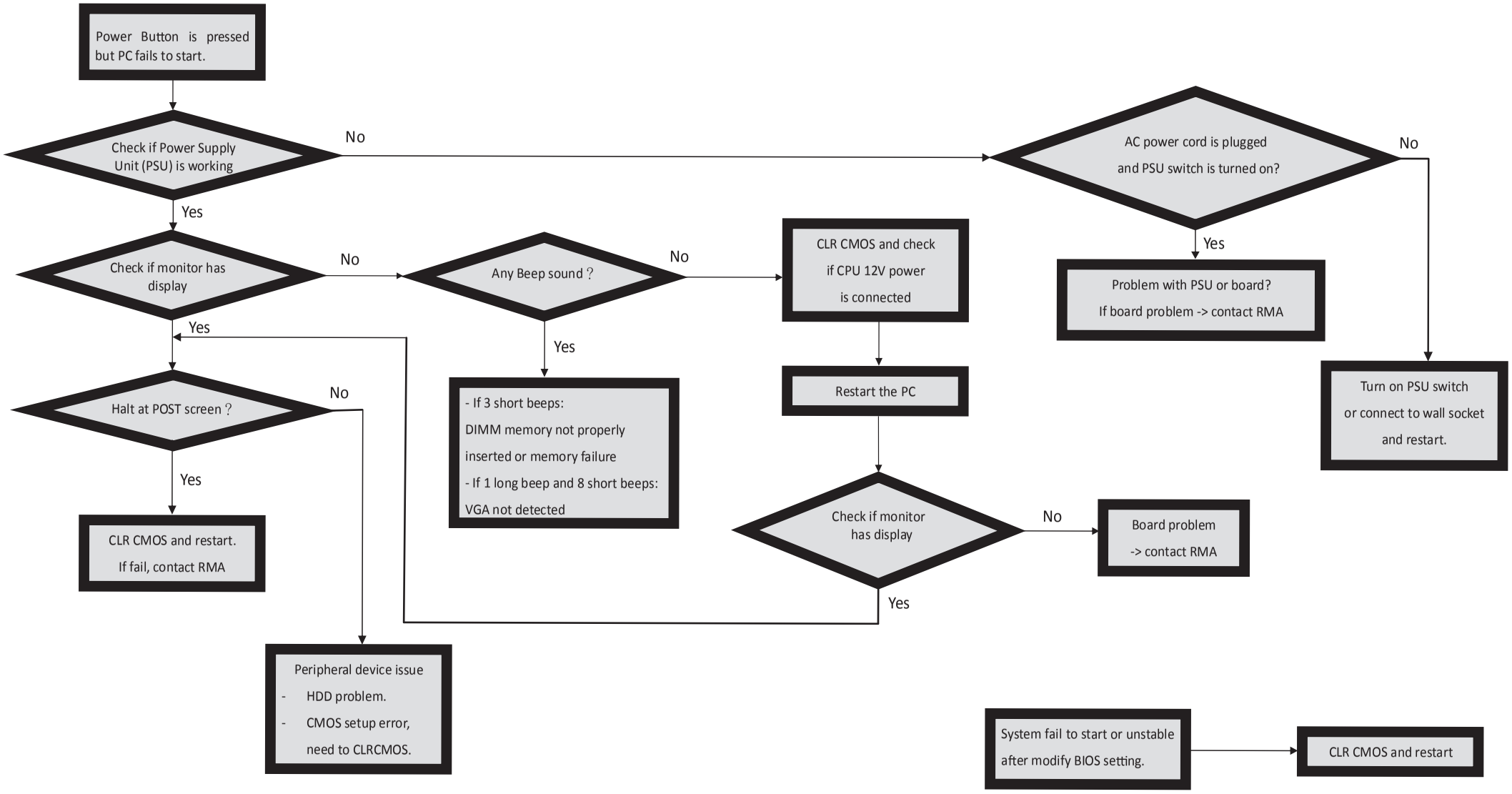
3. Routinely clean the CPU cooler fan to remove dust and hair.

4. In places of hot and humid weather you should turn on your computer once every other week to circulate the air and prevent damage from humidity.

5. Add more memory to your computer if possible. This not only speeds up the system but also reduces the loading of your hard drive to prolong its life span.

6. If possible, ensure the power cord has an earth ground pin directly from the wall outlet. This will reduce voltage fluctuation that may damage sensitive devices.

# Basic Troubleshooting Flowchart


Power Button is pressed but PC fails to start.
Check if Power Supply Unit (PSU) is working
No
AC power cord is plugged and PSU switch is turned on?
No
Yes
Problem with PSU or board? If board problem -> contact RMA
Turn on PSU switch or connect to wall socket and restart.
Yes
Check if monitor has display
No
Any Beep sound ?
No
CLR CMOS and check if CPU 12V power is connected
Yes
- If 3 short beeps: DIMM memory not properly inserted or memory failure
- If 1 long beep and 8 short beeps: VGA not detected
Yes
Restart the PC
Yes
Halt at POST screen ?
No
Yes
CLR CMOS and restart. If fail, contact RMA
Check if monitor has display
No
Board problem -> contact RMA
Yes
Peripheral device issue
- HDD problem.
- CMOS setup error, need to CLRCMOS.
System fail to start or unstable after modify BIOS setting.
CLR CMOS and restart

*Memo*